

Serial No. 10/690,098

- 2 -

41216aka

CLAIM AMENDMENTS

1-23. (Cancelled)

24. (Previously Presented) A liquid receptacle for rapidly lowering the temperature of a liquid contained therein to a warm range suitable for human contact and maintaining the liquid in the warm range for an extended period of time, said receptacle comprising:

an inner vessel having an open upper end and closed lower end and a wall connecting the upper end and the lower end;

an insulated outer shell spaced from the inner vessel defining an interstitial chamber therebetween, the outer shell including an inner layer and an outer layer with an evacuated void therebetween for vacuum insulating the outer shell; and

a phase change material disposed within the chamber for regeneratively absorbing thermal energy from the liquid and then releasing the thermal energy to the liquid to maintain the temperature of the liquid.

25. (Previously Presented) The liquid receptacle according to claim 24, wherein the inner layer of the outer shell has an inner surface, the upper end of the inner vessel being in sealing engagement with the inner surface of the outer wall).

26. (Previously Presented) The liquid receptacle according to claim 25, wherein the outer shell has an upper edge terminating in a lip for drinking, the lip being spaced from the upper end of the inner vessel by a distance sufficient to prevent contact between the inner vessel and the mouth of a consumer of liquid from the receptacle.

27. (Previously Presented) The liquid receptacle according to claim 25, wherein the outer shell has an upper edge terminating in a lip for drinking, the lip having a cross section comprising at least 180 degrees of an arc.

Serial No. 10/690,098

- 3 -

41216aka

28. (Previously Presented) The liquid receptacle according to claim 24, wherein the outer shell has an upper edge terminating in a lip for drinking, the lip being spaced from the upper end of the inner vessel by a distance sufficient to prevent contact between the inner vessel and the mouth of a consumer of liquid from the receptacle.

29. (Previously Presented) The liquid receptacle according to claim 24, wherein the outer shell has an upper edge terminating in a lip for drinking, the lip having a cross section comprising at least 180 degrees of an arc.

30. (Previously Presented) The liquid receptacle according to claim 24, wherein the wall of the inner vessel has an outward taper such that the upper end has a width greater than a width of the lower end.

31. (Previously Presented) The liquid receptacle according to claim 24, wherein the phase change material has a solid to liquid phase change temperature within the range of 110 degrees Fahrenheit to 160 degrees Fahrenheit.

32. (Previously Presented) A receptacle according to claim 31 wherein the phase change material is selected from the group consisting of naturally occurring fatty acids.

33. (Previously Presented) A receptacle according to claim 24, wherein the phase change material is palmitic acid.

34. (Previously Presented) The liquid receptacle according to claim 24, wherein the inner vessel is formed from a material having a thermal conductivity greater than 150 Watts/meter-degree Kelvin.

35. (Previously Presented) The liquid receptacle according to claim 24, wherein the material is selected from the group consisting of aluminum, aluminum alloys, copper, and copper alloys.

Serial No. 10/690,098

- 4 -

41216aka

36. (Withdrawn) The liquid receptacle according to claim 24, wherein the receptacle is a baby bottle.

37. (Withdrawn) The liquid receptacle according to claim 24, wherein the receptacle is a bathing tub.

38. (Previously Presented) A liquid receptacle for rapidly lowering the temperature of a hot beverage contained therein to a warm range suitable for human consumption and maintaining the liquid in the warm range for an extended period of time, said receptacle comprising:

an inner vessel having an open upper end and closed lower end and a wall connecting the upper end and the lower end, the upper end terminating in a rim;

an insulated outer shell spaced from the inner vessel defining an interstitial chamber therebetween, the outer shell having an inner surface and an outer surface and an upper edge terminating in a lip for drinking;

the inner surface of the outer shell having a circumferential outwardly extending recess defined therein, the recess being spaced from the lip;

the rim of the inner vessel being in sealing engagement with the recess in the inner surface of the outer shell and spaced from the lip of the outer shell for preventing contact between the inner vessel and the mouth of a consumer of liquid from the receptacle; and

a phase change material disposed within the chamber for regeneratively absorbing thermal energy from the beverage and then releasing the thermal energy to the beverage to maintain the temperature of the liquid.

39. (Previously Presented) The liquid receptacle according to claim 38, wherein the outer shell has an inner layer and an outer layer with an evacuated void therebetween for vacuum insulating the outer shell.

40. (Previously Presented) The liquid receptacle according to claim 38, wherein the upper end of the inner vessel is spaced from the lip by a distance greater than .125 inches.

Serial No. 10/690,098

- 5 -

41216aka

41. (Previously Presented) The liquid receptacle according to claim 38, wherein the rim of the inner vessel comprises a bulbous lip and the outwardly extending recess in the outer shell is an arced recess, the bulbous lip of the inner vessel being in sealing engagement with the arced recess in the inner surface of the outer shell.

42. (Previously Presented) The liquid receptacle according to claim 38, wherein the wall of the inner vessel has an outward taper such that the upper end has a width greater than the width of the lower end.

43. (Withdrawn) A regenerative bathtub comprising:

an inner vessel sized to receive a human body for bathing, the vessel having an inner surface and an outer surface;

a chamber in thermal communication with the inner surface of the inner vessel;

a phase change material disposed in the chamber for regeneratively absorbing thermal energy from a hot liquid introduced into the inner vessel and then releasing thermal energy to the liquid to maintain the temperature of the liquid.

Serial No. 10/690,098

- 6 -

41216aka

Respectfully submitted,

By: 

Douglas L. Wathen

Reg. No. 41,369

Gifford, Krass, Groh, Sprinkle,

Anderson & Citkowski, PC

280 N. Old Woodward Ave., Ste 400

Birmingham, MI 48009

(734) 913-9300 FAX (734) 913-6007

Date: 12/17, 2004

Attorney for Applicant